

QUASAR

FX TYPE: OVERDRIVE

Based on the Xotic® AC / RC Boost™

PCB artwork ©2011 madbeanpedals

Release date: 01.25.11

The new version of the **Quasar** (ver.4) allows you to build either the Xotic® AC or RC Boost™. The main difference between these two versions is in the number of clipping diodes used, the value of the **Drive** pot and a bit of filtering. If you are familiar with the Ibanez® Tube Screamer™, you will likely recognize the overall design. However, these effects have the distinction of using an active [Baxandall](#) tone stack. This allows for much more tone shaping than the single tone knob available in the Tube Screamer™. These added controls allow boost or cut for bass and treble frequency ranges.

The controls are as follows

DRIVE: This control varies the overdrive produced by the effect.

BASS: This control lets you boost or cut bass frequencies.

TREBLE: This control lets you boost or cut treble frequencies.

VOL: The output level.

SmallBear Parts Guide – www.smallbearelec.com

- Panasonic ECQ-B / V film caps or Topmay box caps
- Carbon film Resistors 1/4W and/or metal film resistors 1/4W
- 16v electrolytic radial caps
- Ceramic or Silver Mica caps (for pF values)
- 16mm Alpha Pots

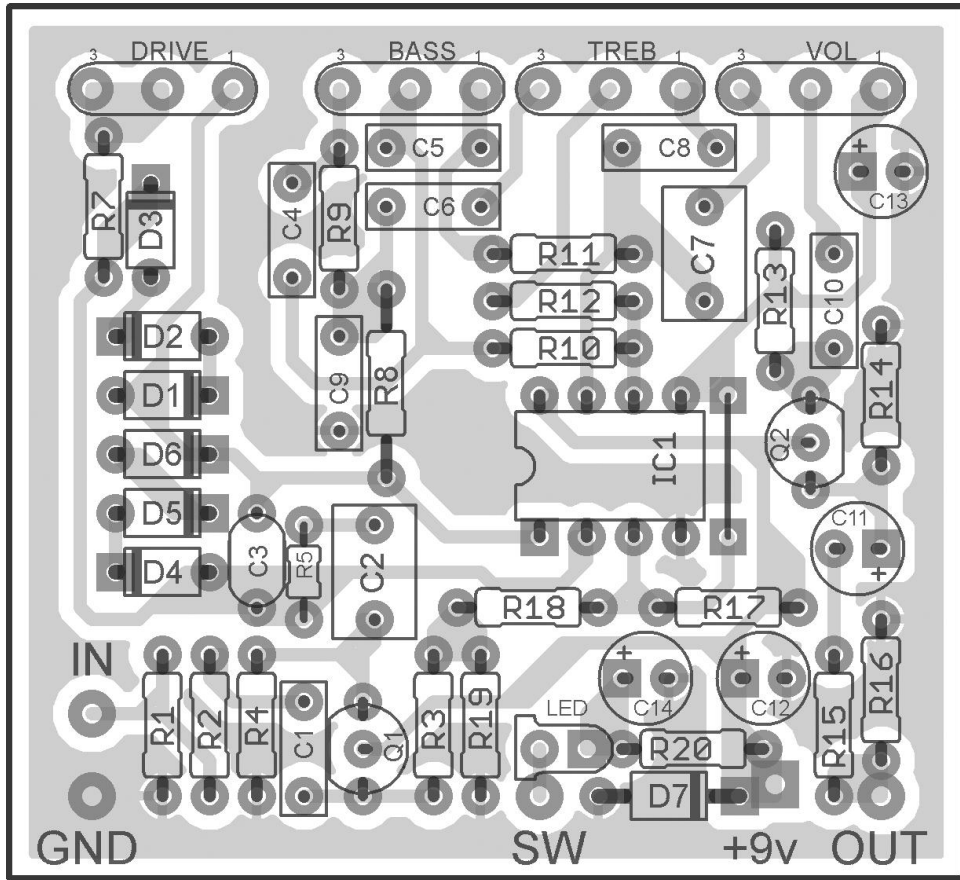
Notes

- Note that there is a jumper needed on the board just behind the IC.
- The stock transistors are [2SC1815](#). These have a pinout of E-C-B. This means that if you are planning on substituting another type of transistor, such as the 2n5089 (which has an E-B-C pinout), you will need to bend the collector and base pins over each other in order to place them correctly on the PCB. Since the two transistors are used as buffers in this circuit, you can expect little or no change in tone if you substitute different types. Other transistors with the E-C-B pinout include [2SC945](#) and the [2SC828](#).
- The stock op-amp is unknown; however any number of dual op-amps will work for this effect. Suggestions are JRC4558, TL2272, LF353 or the OPA2604.
- If you'd like to make a "bass" overdrive out of either version, these are the suggested value changes: **C1** – 100n, **C6 & C8** – 10n, **C3 & C5** – 47n.

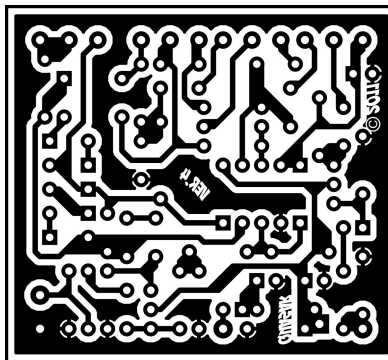
UPDATE: A kind person has informed me that the stock IC is JRC4557D.

http://www.dalbani.co.uk/catalogue/product_details.php?id=27344

UPDATE 2: R8 should be 1k for the AC version, not 10k!



2.04" W x 1.86" H (including borders)

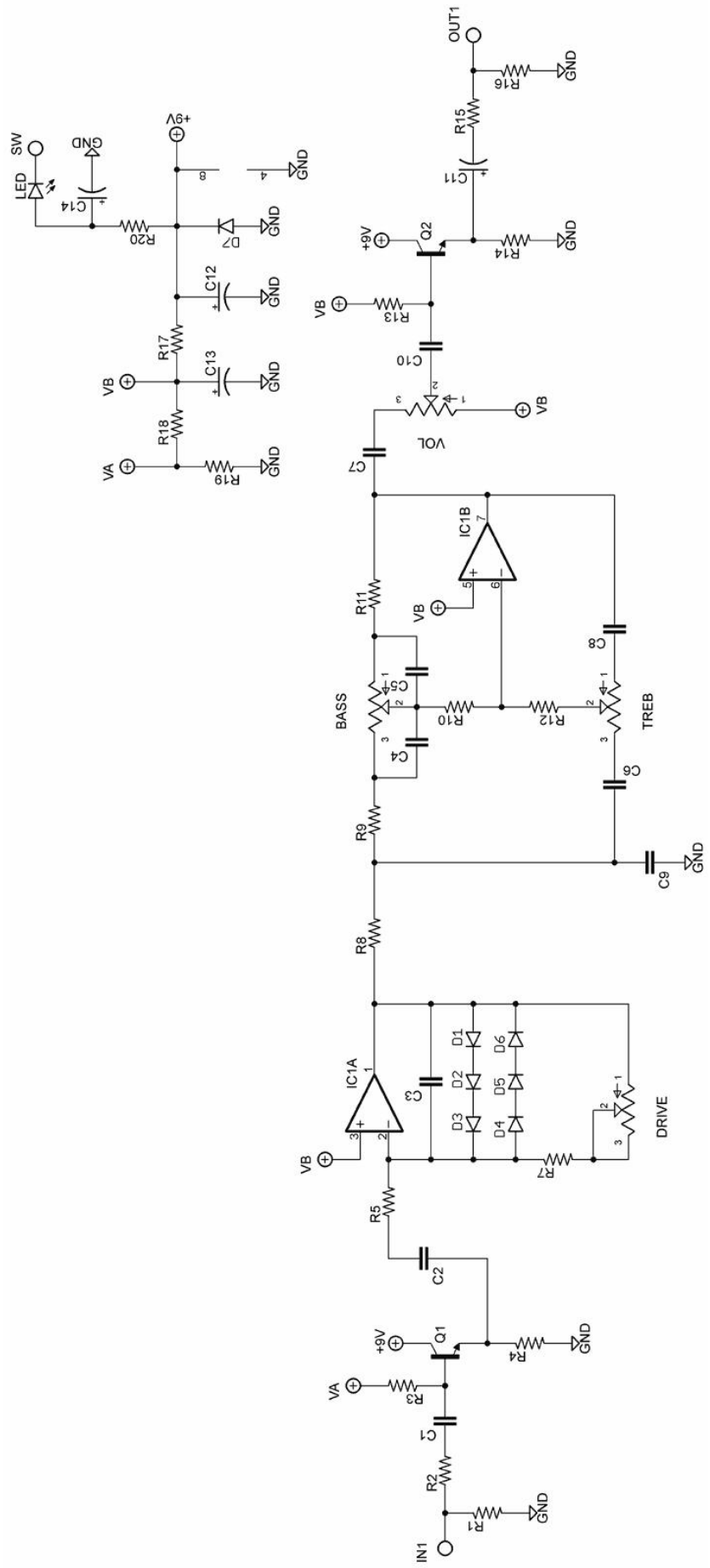


RC Boost

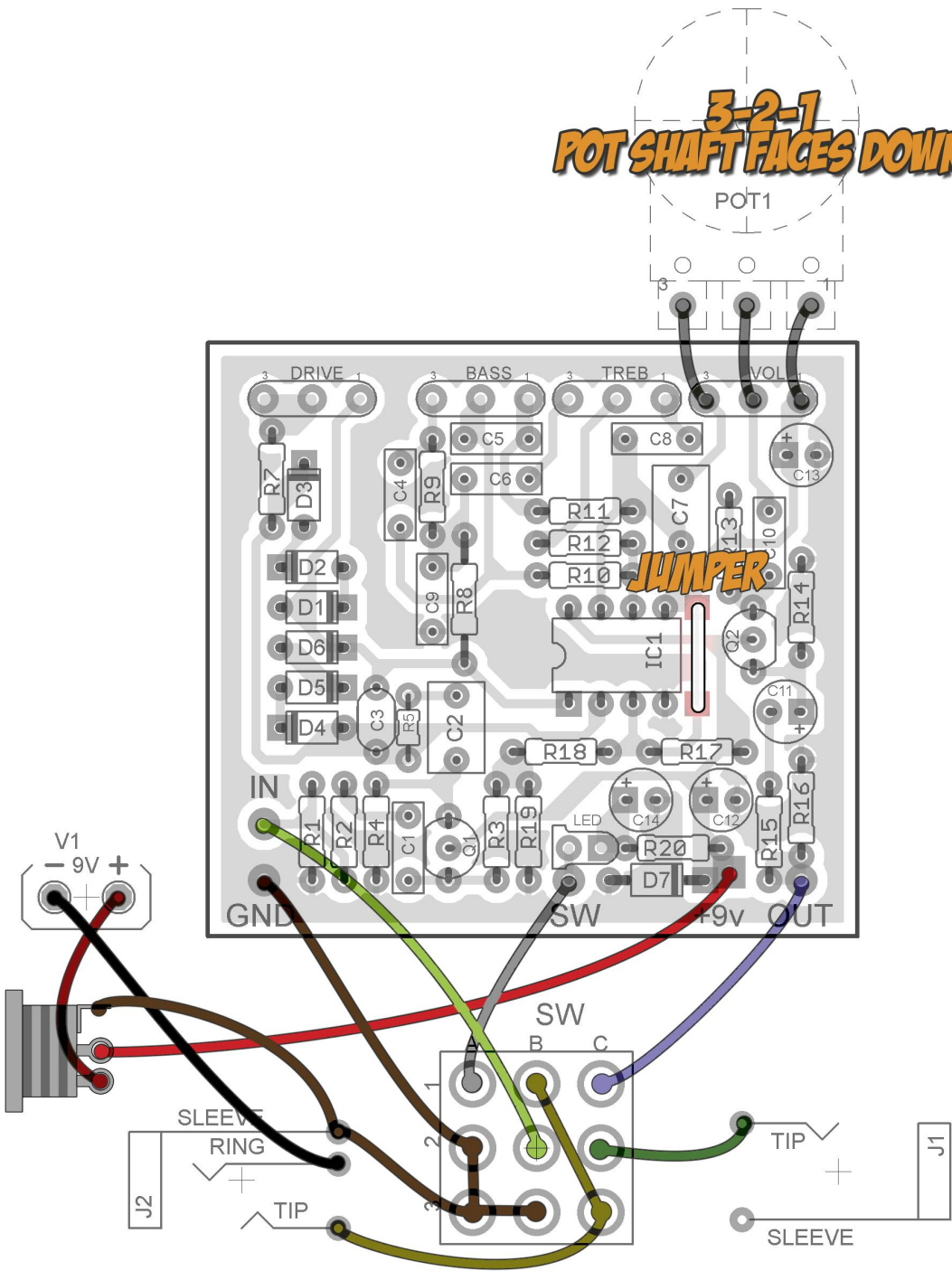
Resistors		Caps		Diodes	
R1	1M	C1	47n	D1	1n4148
R2	10k	C2	1uF	D2	1n4148
R3	1M	C3	150p	D3	1n4148
R4	10k	C4	33n	D4	1n4148
R5	22k	C5	33n	D5	1n4148
R7	47k	C6	4n7	D6	1n4148
R8	jumper	C7	1uF	D7	1N4001
R9	4k7	C8	4n7	Transistors	
R10	33k	C9	omit	Q1, Q2	2SC1815
R11	4k7	C10	100n	IC	
R12	10k	C11	10uF	IC1	TL072
R13	470k	C12	10uF	Pots	
R14	10k	C13	10uF	BASS	50kB
R15	470R	C14	2u2	DRIVE	250kB
R16	100k			TREB	50kB
R17	22k			VOL	100kA
R18	6k8				
R19	15k				
R20	33k				

AC Boost

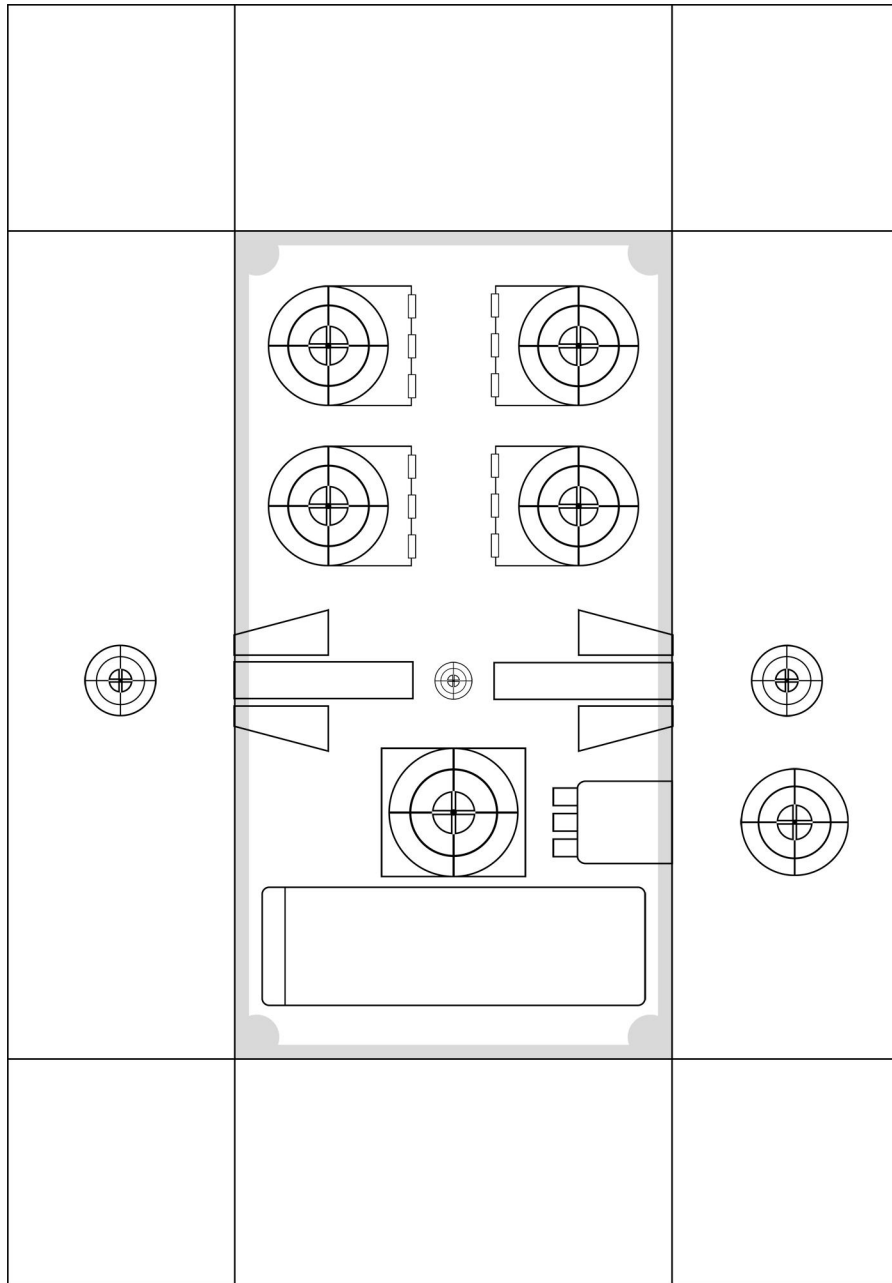
Resistors		Caps		Diodes	
R1	1M	C1	20n	D1	1n4148
R2	10k	C2	100n	D2	1n4148
R3	1M	C3	150pF	D3	jumper
R4	10k	C4	33n	D4	jumper
R5	10k	C5	33n	D5	jumper
R7	47k	C6	4n7	D6	1n4148
R8	1k	C7	1uF	D7	1N4001
R9	4k7	C8	4n7	Transistors	
R10	33k	C9	100n	Q1, Q2	2SC1815
R11	4k7	C10	100n	IC	
R12	10k	C11	10uF	IC1	Dual Op Amp
R13	470k	C12	10uF	Pots	
R14	10k	C13	10uF	BASS	50kB
R15	470R	C14	2u2	DRIVE	500kB
R16	100k			TREB	50kB
R17	22k			VOL	100kA
R18	6k8				
R19	15k				
R20	22k				



**3-2-1
POT SHAFT FACES DOWN**



1590B Layout
4.64" W x 6.69" H



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